

REMARKS

Claims 1-10 and 13-17 are now pending in this application. The Office Action rejected all of the claims under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,117,687 issued to Hugh (Hugh), in view of any one of U.S. Patent No. 6,146,266 issued to O'Halloran et al. (O'Halloran et al.), U.S. Patent No. 6,143,048 issued to Comproni et al. (Comproni et al.) and U.S. Patent No. 5,834,069 issued to Berman et al. (Berman et al.).

Applicants respectfully traverse the rejections of the Office Action to the extent that they are maintained. Applicants have nonetheless amended claims 1 and 10 in deference to the Examiner.

Applicants wish to thank the Examiner for the courtesy extended during the telephonic interview between the Examiner and Applicants' representative on September 23, 2004. In the interview, proposed amendments to the claims to address the art-based rejections were discussed. Specifically, the Examiner suggested incorporating "incubator" in the body of the claims to overcome the newly cited references, none of which are directed to an incubator. The Examiner further suggested reciting the functionality of the claimed high flow rate blower in the context of its incubator environment.

To this end, both independent claims have been amended to recite a high flow rate blower configured to move air through an incubator at a rate of at least five cubic feet per minute. This feature highlights a major improvement over conventional incubator filtration systems. Designers of conventional incubators have previously been unable to use a VOC filter without requiring a low flow rate blower and/or the VOC filter to be segregated from the gaseous environment of the incubator chamber. As described on page 5 of the application, these VOC filter flow rate and location constraints increase contamination and costs. The claimed invention solves these problems by enabling use of a high flow rate blower and the positioning of the VOC filter within the gaseous environment of the incubator chamber. VOC's are thus removed from the gaseous environment in a manner that

decreases the contamination levels and maintenance costs associated with conventional incubators.

While VOC filters are known outside the field of incubators, their use in incubators has been impractical due to air cycling and space considerations. The newly cited references are not directed to incubators, but are rather directed to vastly different mobile vacuum, factory filtration and chemical reaction catalyst applications (Comproni et al., O'Halloran et al. and Berman et al, respectively). None of these environments of the newly cited references consequently include the space and circulation requirements needed to support life within an incubator. The Examiner has used impermissible hindsight to piece together features of the claimed invention. Applicants thus respectfully disagree with the rejections and submit that the claims are patentable in light of the arguments presented below.

Applicants' claim 1 reads:

1. A controlled atmosphere incubator comprising:
 - a heater;
 - a cabinet including a chamber housing a gaseous environment, said chamber being in thermal communication with the heater and surrounded by top, bottom, rear and side walls and having a front side with an opening;
 - an outer door pivotally mounted to said front side;
 - a high flow rate blower mounted within said cabinet and including an inlet and an outlet, wherein said high flow rate blower is configured to move air through said incubator at a rate of at least five cubic feet per minute;
 - a plenum formed in said chamber and providing an air circulation path through said chamber, said plenum being partially formed by a plate mounted across said chamber and between the inlet and outlet of said blower; and
 - a VOC filter removably attached to the inlet of said blower, said VOC filter being disposed within the gaseous environment of said chamber.

Significantly, none of the references cited by the Examiner, either alone or in combination, teach use of a VOC filter in an incubator. While Hugh

teaches the benefits of including a HEPA filter in an incubator, O'Halloran et al., Comproni et al. and Berman et al. do not teach or suggest the use of a VOC filter to remove chemicals from the air inside an incubator environment. Put another way, none of O'Halloran et al., Comproni et al. and Berman et al. teach or suggest the need to purify air in an incubator environment or to position a chemical filter within an incubator. Accordingly, one of ordinary skill in the art would not have been motivated to combine the teachings of Hugh with any of the newly cited references to construct Applicants' claimed invention. Even if the references were combined by one of ordinary skill in the incubator art, which Applicants submit is unsuggested, the combination would fail to teach Applicants' claimed relationship between a high flow rate blower and the VOC filter.

Turning more particularly to the cited references that form the basis of the rejections, Hugh relates to an incubator having an interior chamber surrounded by a heated water jacket. The Examiner admits that Hugh fails to disclose the claimed "VOC filter removably attached to the inlet said blower." The Office Action seeks to remedy this deficiency by relying on O'Halloran et al. O'Halloran et al., however, is directed to a manufacturing facility that is subject to none of the size and air flow constraints of the incubator of Hugh. O'Halloran et al. is primarily concerned with redirecting exhaust from a purified bay into a chase manufacturing portion of the facility to reduce expenses (column 4, lines 8-17). No comparable structure or goal is present in Hugh. While O'Halloran et al. does ambivalently list a VOC filter in its "Recirculation Air Handling Unit Specifications," the reference does not suggest or motivate a VOC filter configuration that is compatible with or appropriate for an incubator environment such as is disclosed in Hugh, where air is re-circulated (column 2, lines 32-34), rather than redirected and expelled. There is consequently no suggestion to modify the incubator of Hugh according to the manufacturing facility of O'Halloran et al.

Even if somehow combined, moreover, the combination of Hugh and O'Halloran et al. would not have suggested Applicants' claimed arrangement of the

VOC filter removably attached to the inlet of a high flow rate blower. O'Halloran et al. fails to teach or suggest any location of the filter with respect to a blower. According, a hypothetical combination of O'Halloran et al. would not motivate one of ordinary skill in the art to position a VOC filter at the inlet of a blower, as called for in Applicants' independent claim 1.

Likewise, there is no suggestion or motivation in either of Hugh or Comproni et al. to combine these two references. Comproni et al. discloses an air pollution vacuum mounted on wheels for capturing airborne pollutants at a painting/construction site (see Abstract). Pollutants are trapped and retained within the housing 18 of the vacuum (column 3, lines 44-46), after the vacuum is wheeled to the site. The structural differences regarding the use of filters as between Comproni et al. and Hugh speaks to their disparate purposes and operating environments. Namely, the incubator chamber of Hugh internally supports a controlled, gaseous atmosphere inside its chamber and treats air entering the chamber to maintain that atmosphere (lines 24-27). In contrast, the purpose of Comproni et al. is to maximize the introduction of contaminants into its housing. Consequently, the Comproni et al. and Hugh references actually teach away from each other, and fail to provide the requisite suggestion for modification as asserted by the Examiner. Furthermore, Comproni et al. is silent as to the orientation of the vacuum's filter with respect to the fan. Consequently, even a hypothetical combination of the references would not suggest a "VOC filter removably attached to the inlet of said blower."

Similarly, there is no suggestion or motivation in either of Berman et al. or Hugh to combine these references. As with the apparatus of Comproni et al. and O'Halloran et al., the semiconductor catalyst of Berman et al. is not directed to a technology applicable to or appropriate for an incubator environment, such as in Hugh. Rather, a matte web 10 is used in conjunction with light sources 116 to catalyze a degradation reaction (column 4, lines 57-61). Such a function as disclosed in Berman et al. actually teaches away from using a filter to support

biological cultures within a chamber, as with Hugh. Moreover, a hypothetical combination of Hugh and Berman et al. would at best suggest using a matte web for expelling irradiated air into an otherwise controlled incubator environment.

For all of the reasons stated above, a combination of Hugh, O'Halloran et al., Berman et al. and Comproni et al. would not have rendered Applicants' independent claim 1 and dependent claims 2-9 obvious to one of ordinary skill in the art. Applicants consequently request reconsideration and allowance of claim 1, as well as of claims 2-9 that depend therefrom.

Turning now to independent claim 10, which as amended reads:

10. A controlled atmosphere incubator comprising:
 - a cabinet including a chamber having walls enclosing an interior incubating space;
 - a plenum formed in said chamber and providing an air flow path through said chamber;
 - a high flow rate blower mounted in said air flow path of said chamber, said air flow path extending through said interior incubating space, wherein said high flow rate blower is configured to move air along said air flow path through said incubator at a rate of at least five cubic feet per minute;
 - a HEPA filter removably mounted within said chamber and in said air flow path to filter air traveling to said blower; and
 - a VOC filter removably mounted within the gaseous environment of said chamber and coupled to said HEPA filter, wherein one of said VOC filter and said HEPA filter is disposed circumferentially about the other of said VOC filter and said HEPA filter.

As discussed above, none of the references cited by the Examiner, either alone or in combination, teach use of a VOC filter in an incubator. Nor do any of the references teach circumferentially positioning one of a VOC filter and a HEPA filter about the other as set forth in claim 10. While Hugh teaches the benefits of including a HEPA filter in an incubator, O'Halloran et al., Berman et al. and Comproni et al. do not teach or suggest the use of a VOC filter to remove chemicals from the air inside an incubator environment for all of the reasons previously discussed. Nor do any of the references suggest combining the VOC

and HEPA filters as set forth in claim 10, "wherein one of said VOC filter and said HEPA filter is disposed circumferentially about the other of said VOC filter and said HEPA filter." Accordingly, one of ordinary skill in the art would not have been motivated to combine the teachings of Hugh with O'Halloran et al., Berman et al. and Comproni et al. to construct Applicants' claimed invention.

Furthermore, even if the references were somehow combined by one of ordinary skill in the incubator art, which Applicants submit is unsuggested, the combination would fail to teach additional aspects of Applicants' claimed relationship between the filters. Thus, without further teaching, and without the benefit of improper hindsight of Applicants' own disclosure, one of ordinary skill in the art would not have been motivated to combine any of O'Halloran et al., Berman et al. and Comproni et al. with Hugh. "It is impermissible to use the claimed invention as an instruction manual or template to piece together the teachings of the prior art so that the claimed invention is rendered obvious...[O]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to depreciate the claimed invention." In re Fritch, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992). For the reasons stated above, the Examiner has failed to set forth a prima facie case of obviousness for rejection of claims 10 and 13-17.

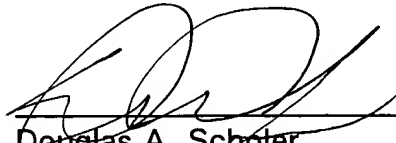
Applicants respectfully submit that no new subject matter is being added by the above amendments, as the amendments are fully supported in the specification, drawings and claims as originally filed. The claimed recitation of a high flow rate blower configured to move air through an incubator at a rate of at least five cubic feet per minute is specifically supported at lines 3-5 on page 7 of the specification.

Applicants therefore submit that all pending claims are patentable over the prior art of record, and reconsideration and allowance of all pending claims are accordingly requested. If the Examiner has any questions regarding the foregoing, or which might otherwise further this case onto allowance, the Examiner may contact the undersigned at (513) 241-2324. Moreover, if there are any charges or

credits that are necessary to complete this communication, please apply them to
Deposit Account 23-3000.

Respectfully submitted,

WOOD, HERRON & EVANS, LLP



Douglas A. Scholer
Reg. No. 52,197

2700 Carew Tower
441 Vine Street
Cincinnati, OH 45202-2917
513-241-2324 (phone)
513-241-6234 (fax)

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